



RESOLUTION

URGING THE CITY ADMINISTRATION TO ESTABLISH GOALS FOR 100 PERCENT RENEWABLE ENERGY AND A CARBON NEUTRAL ECONOMY TO ACCELERATE THE CITY AND COUNTY OF HONOLULU'S IMPLEMENTATION OF THE 2018 GLOBAL CLIMATE ACTION SUMMIT POLICIES.

WHEREAS, a destabilized global climate, changing ocean temperatures, and the impacts of melting ice masses from Greenland to Antarctica are manifested in Hawaii by more frequent and bigger storms, beach loss to higher tides and rising sea levels, higher average temperatures, decreased trade winds, dying coral reefs, and increased periods of drought and heavy rain with flooding; and

WHEREAS, Hawaii's host culture continues to value Ohana, Malama, Kuleana, and Aloha; and in June 2015, people of all faiths celebrated Pope Francis' encyclical "Praised Be (*Laudato Si*): On the Care of Our Common Home," affirming our shared moral responsibility to address climate change and mitigate the inequities of environmental exploitation; and

WHEREAS, in November 2016, 195 countries signed the Paris Agreement under the United Nations Framework Convention on Climate Change ("Paris Agreement") as a historic coordinated global effort to combat climate change; and the current Administration's withdrawal of U.S. federal international participation called forth immediate action by local governments in the U.S., as well as independent action by local communities, businesses, and utilities to reduce greenhouse gas emissions; and

WHEREAS, in 2016, Honolulu voters approved a charter amendment establishing the City and County of Honolulu ("City") Office of Climate Change, Sustainability and Resiliency and the Honolulu Climate Change Commission; and

WHEREAS, Act 32, Session Laws of Hawaii ("SLH") 2017, established the Hawaii Climate Change Mitigation and Adaptation Commission ("State Climate Commission"), in recognition of the need for immediate and unprecedented levels of intergovernmental cooperation and commitment to reducing greenhouse gas emissions in accordance with the Paris Agreement, and a "bold energy agenda" to achieve 100 percent clean energy in Hawaii by 2045; and

WHEREAS, in 2017, the State Climate Commission's "Hawaii Sea Level Rise Vulnerability and Adaptation Report" acknowledged that 3.2 feet of sea level rise could occur as early as mid-century, causing an estimated 9,400 acres on the island of Oahu to experience chronic flooding that will impact nearly 4,000 structures resulting in an estimated \$12.9 billion dollars in private property and structure-related losses alone (not including public infrastructure and other direct and induced economic losses); and



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WHEREAS, in June, 2018, the Honolulu Climate Change Commission adopted its *Climate Change Brief* to "establish the factual basis and broad impact of climate change." The *Climate Change Brief* "describes the local, regional, and global impacts of climate change as documented by peer-reviewed scientific literature and credible empirical data sources" and "reinforces the need for an urgent and sweeping transition in our energy sources, food systems, and land-use practices to achieve a decarbonized world economy"; and

WHEREAS, Act 15, SLH 2018, established a statewide target to achieve carbon neutrality (i.e., sequester more atmospheric carbon and greenhouse gases than are emitted within the State) as quickly as practicable, but no later than 2045, and Act 155, SLH 2009, established an Energy Efficiency Goal of reducing statewide electricity consumption by 4,300 gigawatt hours by 2030; and

WHEREAS, the transportation sector uses almost two-thirds of all petroleum consumed in Hawaii, and significant transportation emission reductions are essential to achieving 100 percent renewable and carbon neutrality goals; in December 2017, Hawaii's four mayors committed to 100 percent clean ground transportation by 2045, and Mayor Caldwell pledged to lead by example and transition to a 100 percent renewable energy-powered City fleet by 2035; and

WHEREAS, in 2017, Mayor Caldwell signed the Chicago Climate Charter, committing the City Administration to "partner with scientific and academic experts, community organizations, businesses and investors, environmental justice groups, environmental advocates, and other allies to develop holistic climate mitigation, adaptation, and resilience solutions"; and in response to the findings and guidance of the Honolulu Climate Change Commission, Mayor Caldwell issued a 2018 directive that requires all City departments and agencies under the Mayor's jurisdiction to view climate change action as an urgent matter and act proactively to reduce greenhouse gas emissions and to prepare the City for the physical and economic impacts resulting from climate change; and

WHEREAS, on November 23, 2018, the U.S. Global Change Research Program released the second volume of the Fourth National Climate Assessment, Chapter 27 of which, Executive Summary attached hereto as Exhibit A, details multiple impacts climate change is projected to have on the human welfare and environmental health of Hawaii and U.S.-affiliated Pacific Islands and underscores the importance of early interventions; and



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WHEREAS, further reliance on fossil fuels or the development and construction of new long-lived fossil fuel infrastructure may unnecessarily delay a transition to 100 percent renewable energy, which is necessary for achieving Hawaii's carbon neutrality goals, and according to the 2018 "Transcending Oil: Hawaii's Path to a Clean Energy Economy" report, acceleration of carbon mitigation and renewable energy penetration can provide greater economic, environmental, and societal benefit to the people of Hawaii, and can be deployed at a faster rate than current State goals and at a lower cost to ratepayers; now, therefore,

BE IT RESOLVED by the Council of the City and County of Honolulu ("Council") that it supports the 2018 Global Climate Action Summit "Fossil Fuel Free Streets" declaration to procure only zero emission buses after 2025; transform the City through people-friendly planning policies; increase the rates of walking, cycling, and the use of public and shared transportation; reduce the number of polluting vehicles on our streets by encouraging the purchase of renewable fuel vehicles; procure zero emission vehicles for our City fleet as quickly as possible, and collaborate with suppliers, fleet operators, and businesses to accelerate the shift to zero emissions vehicles and reduce vehicle-miles-travelled in the City and County of Honolulu; and

BE IT FURTHER RESOLVED by the Council that it supports the 2018 Global Climate Action Summit declaration to the Power Past Coal alliance and ensure that Oahu is coal-free by 2022; and

BE IT FURTHER RESOLVED by the Council that it supports the 2018 Global Climate Action Summit commitment to deliver inclusive climate action that benefits all citizens; and to increase action on community-led development, inclusive climate action and infrastructure projects that achieve major environmental, health, social, and economic benefits, especially in low-income and vulnerable communities; and

BE IT FURTHER RESOLVED by the Council that it supports the goal of achieving a 100 percent renewable-powered City ground transportation fleet by 2035 and supports the acceleration of progress towards carbon neutrality and 100 percent renewable energy by 2045, as set forth in State law, or earlier; and

BE IT FURTHER RESOLVED that the Council supports reducing the carbon footprint of new and existing public and private buildings and infrastructure through increased energy efficiency measures, renewable energy installations, and performance standards, as outlined in the Chicago Climate Charter and requests that the City Administration submit an updated version of the building energy conservation code, based on the 2015 International Energy Conservation Code, to the Council for adoption as soon as possible; and



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BE IT FURTHER RESOLVED that the Council supports the concept of a user-friendly and convenient "Carbon-Free Corridor," including policies and projects that will help maximize carbon-free mobility (electric vehicles, scooters, and bike share), access to public transit including electric buses, complete streets and "Vision Zero" strategies, electric vehicle infrastructure, renewable energy generation, and energy storage and efficiency; and

BE IT FURTHER RESOLVED that the City Administration is requested to create a Climate Action Plan that establishes comprehensive milestones to transition Oahu to 100 percent renewable energy on the path to carbon neutrality by 2045, or earlier, to evaluate and recommend best available practices as they emerge, to report annually on the status of and progress toward all targets and goals, and to build upon the effective network of government agencies, affected businesses and industries, social/economic/environmental community leadership, and grassroots community necessary to meet or exceed all community-based target dates in the Climate Action Plan; and

BE IT FURTHER RESOLVED that the Office of Climate Change, Sustainability and Resiliency report on Honolulu's participation in the 2018 Climate Change Action Summit and provide recommendations for specific budgetary and other appropriate actions to implement the City's Climate Action Plan, once established; and



CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. 18-221, CD1, FD1

RESOLUTION

BE IT FINALLY RESOLVED that copies of this resolution be transmitted to the Mayor, Managing Director, Chief Resilience Officer and Executive Director of the Office of Climate Change, Sustainability and Resiliency, the Honolulu Climate Change Commission, and Hawaii Interfaith Power & Light (HIPL).

INTRODUCED BY:

Carol Fukunaga

Ann Kobayashi

DATE OF INTRODUCTION:

October 5, 2018

Honolulu, Hawaii

Councilmembers

27

Hawai'i and U.S.-Affiliated Pacific Islands



Honolulu, Hawai'i

Key Message 1

Threats to Water Supplies

Dependable and safe water supplies for Pacific island communities and ecosystems are threatened by rising temperatures, changing rainfall patterns, sea level rise, and increased risk of extreme drought and flooding. Islands are already experiencing saltwater contamination due to sea level rise, which is expected to catastrophically impact food and water security, especially on low-lying atolls. Resilience to future threats relies on active monitoring and management of watersheds and freshwater systems.

Key Message 2

Terrestrial Ecosystems, Ecosystem Services, and Biodiversity

Pacific island ecosystems are notable for the high percentage of species found only in the region, and their biodiversity is both an important cultural resource for island people and a source of economic revenue through tourism. Terrestrial habitats and the goods and services they provide are threatened by rising temperatures, changes in rainfall, increased storminess, and land-use change. These changes promote the spread of invasive species and reduce the ability of habitats to support protected species and sustain human communities. Some species are expected to become extinct and others to decline to the point of requiring protection and costly management.

Key Message 3

Coastal Communities and Systems

The majority of Pacific island communities are confined to a narrow band of land within a few feet of sea level. Sea level rise is now beginning to threaten critical assets such as ecosystems, cultural sites and practices, economies, housing and energy, transportation, and other forms of infrastructure. By 2100, increases of 1–4 feet in global sea level are very likely, with even higher levels than the global average in the U.S.-Affiliated Pacific Islands. This would threaten the food and freshwater supply of Pacific island populations and jeopardize their continued sustainability and resilience. As sea level rise is projected to accelerate strongly after mid-century, adaptation strategies that are implemented sooner can better prepare communities and infrastructure for the most severe impacts.

Key Message 4

Oceans and Marine Resources

Fisheries, coral reefs, and the livelihoods they support are threatened by higher ocean temperatures and ocean acidification. Widespread coral reef bleaching and mortality have been occurring more frequently, and by mid-century these events are projected to occur annually, especially if current trends in emissions continue. Bleaching and acidification will result in loss of reef structure, leading to lower fisheries yields and loss of coastal protection and habitat. Declines in oceanic fishery productivity of up to 15% and 50% of current levels are projected by mid-century and 2100, respectively, under the higher scenario (RCP8.5).

Key Message 5

Indigenous Communities and Knowledge

Indigenous peoples of the Pacific are threatened by rising sea levels, diminishing freshwater availability, and shifting ecosystem services. These changes imperil communities' health, well-being, and modern livelihoods, as well as their familial relationships with lands, territories, and resources. Built on observations of climatic changes over time, the transmission and protection of traditional knowledge and practices, especially via the central role played by Indigenous women, are intergenerational, place-based, localized, and vital for ongoing adaptation and survival.

Key Message 6

Cumulative Impacts and Adaptation

Climate change impacts in the Pacific Islands are expected to amplify existing risks and lead to compounding economic, environmental, social, and cultural costs. In some locations, climate change impacts on ecological and social systems are projected to result in severe disruptions to livelihoods that increase the risk of human conflict or compel the need for migration. Early interventions, already occurring in some places across the region, can prevent costly and lengthy rebuilding of communities and livelihoods and minimize displacement and relocation.



The U.S. Pacific Islands are culturally and environmentally diverse, treasured by the 1.9 million

people who call them home. Pacific islands are particularly vulnerable to climate change impacts due to their exposure and isolation, small size, low elevation (in the case of atolls), and concentration of infrastructure and economy along the coasts.

A prevalent cause of year-to-year changes in climate patterns around the globe and in the Pacific Islands region is the El Niño–Southern Oscillation (ENSO). The El Niño and La Niña phases of ENSO can dramatically affect precipitation, air and ocean temperature, sea surface height, storminess, wave size, and trade winds. It is unknown exactly how the timing and intensity of ENSO will continue to change in the coming decades, but recent climate model results suggest a doubling in frequency of both El Niño and La Niña extremes in this century as compared to the 20th century under scenarios with more warming, including the higher scenario (RCP8.5).

On islands, all natural sources of freshwater come from rainfall received within their limited land areas. Severe droughts are common, making water shortage one of the most important climate-related risks in the region. As temperature continues to rise and cloud cover decreases in some areas, evaporation is expected to increase, causing both reduced water supply and higher water demand. Streamflow in Hawai'i has declined over approximately the past 100 years, consistent with observed decreases in rainfall.

The impacts of sea level rise in the Pacific include coastal erosion, episodic flooding,

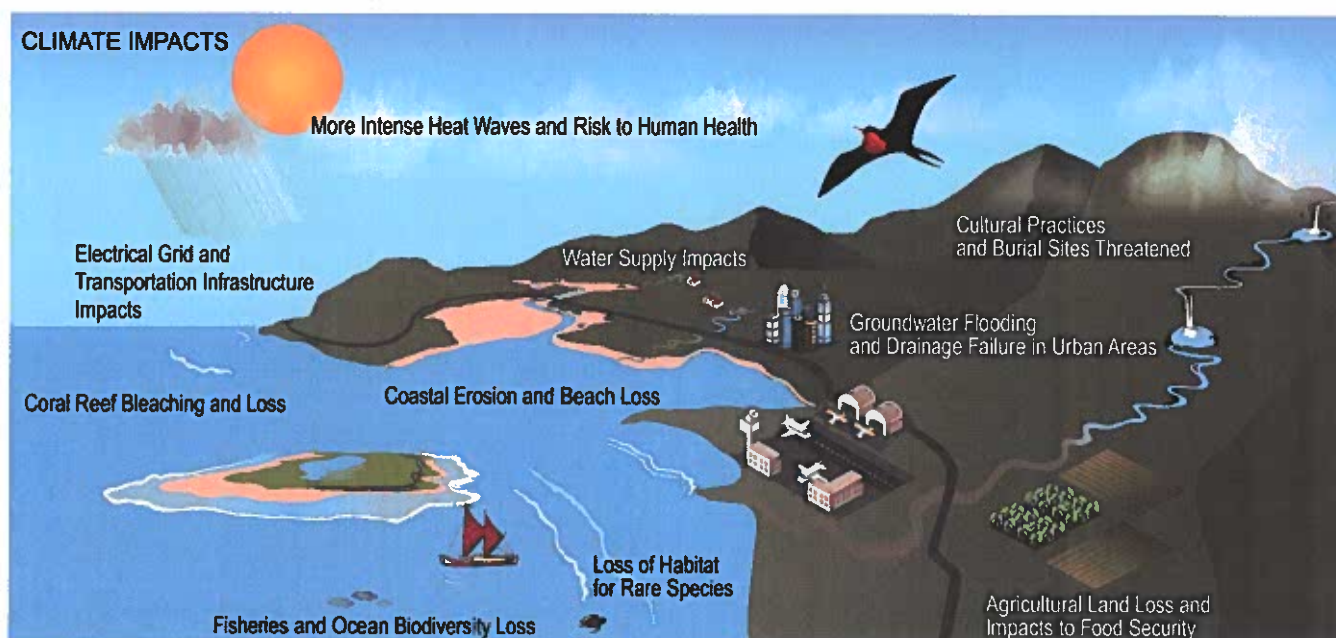
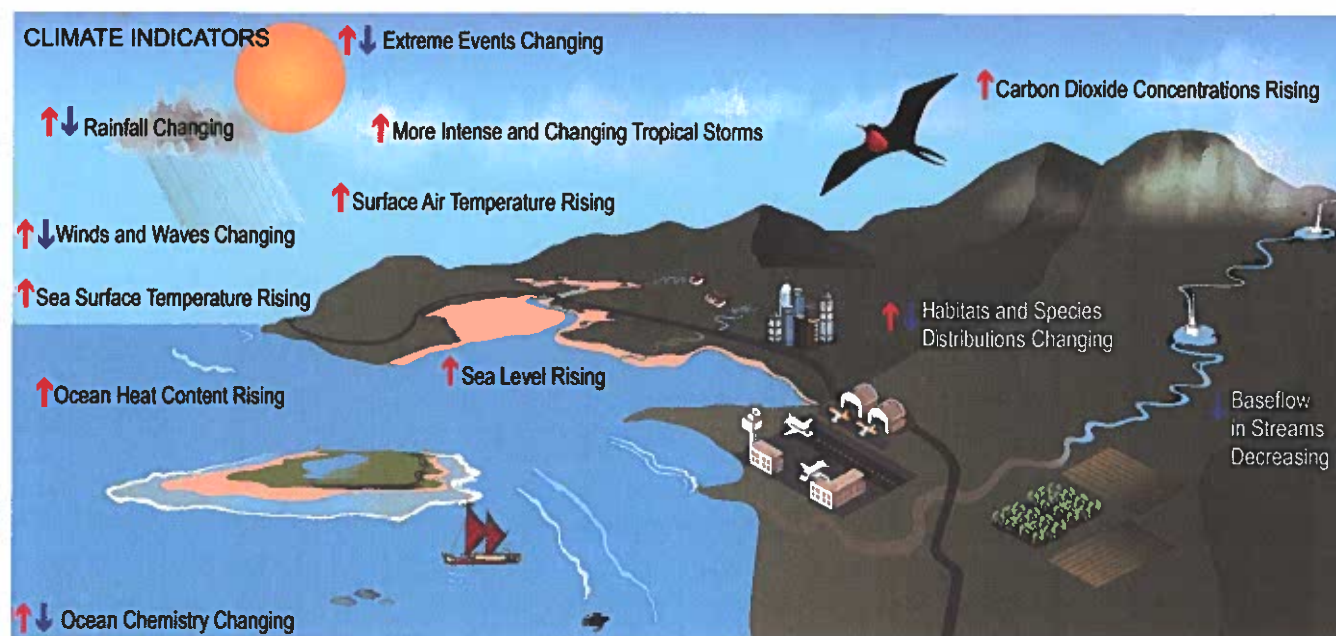
permanent inundation, heightened exposure to marine hazards, and saltwater intrusion to surface water and groundwater systems. Sea level rise will disproportionately affect the tropical Pacific and potentially exceed the global average.

Invasive species, landscape change, habitat alteration, and reduced resilience have resulted in extinctions and diminished ecosystem function. Inundation of atolls in the coming decades is projected to impact existing on-island ecosystems. Wildlife that relies on coastal habitats will likely also be severely impacted. In Hawai'i, coral reefs contribute an estimated \$477 million to the local economy every year. Under projected warming of approximately 0.5°F per decade, all nearshore coral reefs in the Hawai'i and Pacific Islands region will experience annual bleaching before 2050. An ecosystem-based approach to international management of open ocean fisheries in the Pacific that incorporates climate-informed catch limits is expected to produce more realistic future harvest levels and enhance ecosystem resilience.

Indigenous communities of the Pacific derive their sense of identity from the islands. Emerging issues for Indigenous communities of the Pacific include the resilience of marine-managed areas and climate-induced human migration from their traditional lands. The rich body of traditional knowledge is place-based and localized and is useful in adaptation planning because it builds on intergenerational sharing of observations. Documenting the kinds of governance structures or decision-making hierarchies created for management of these lands and waters is also important as a learning tool that can be shared with other island communities.

Across the region, groups are coming together to minimize damage and disruption from coastal flooding and inundation as well as other

Climate Indicators and Impacts

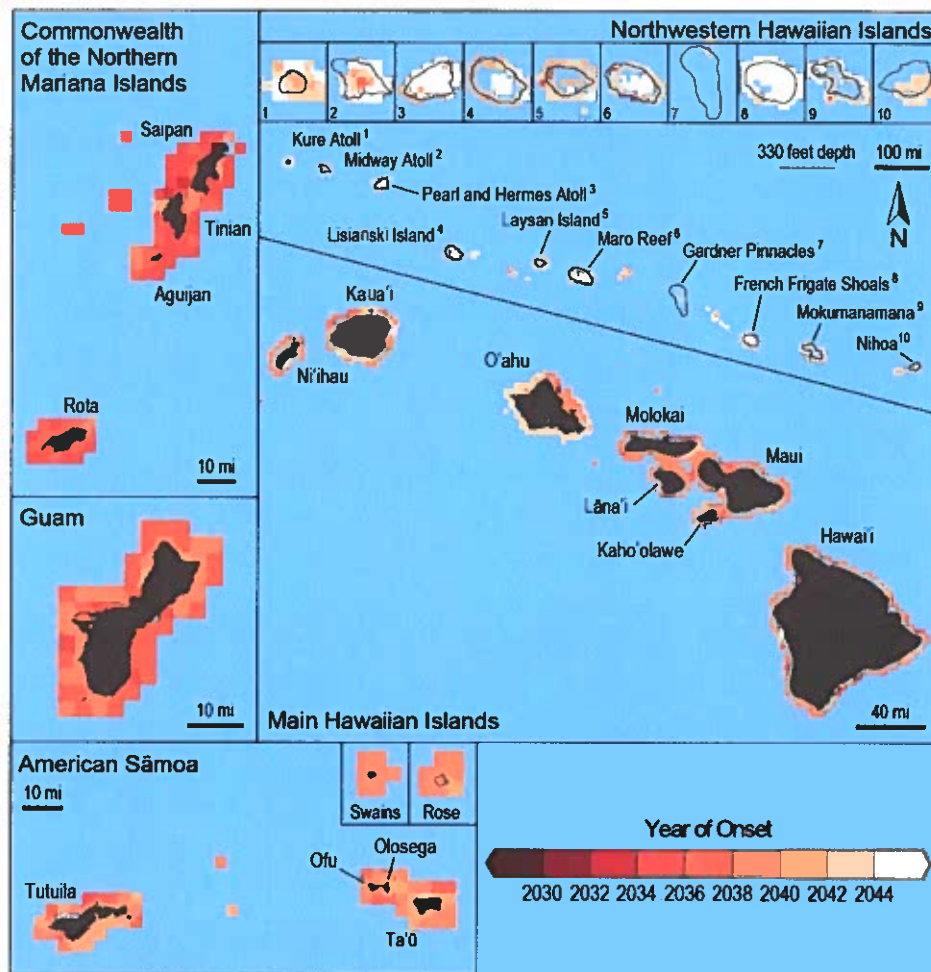


Monitoring regional indicator variables in the atmosphere, land, and ocean allows for tracking climate variability and change. (top) Observed changes in key climate indicators such as carbon dioxide concentration, sea surface temperatures, and species distributions in Hawai'i and the U.S.-Affiliated Pacific Islands result in (bottom) impacts to multiple sectors and communities, including built infrastructure, natural ecosystems, and human health. Connecting changes in climate indicators to how impacts are experienced is crucial in understanding and adapting to risks across different sectors. *From Figure 27.2 (Source: adapted from Keener et al. 2012).*

climate-related impacts. Social cohesion is already strong in many communities, making it possible to work together to take action. Early intervention can lower economic, environmental, social, and cultural costs and reduce or prevent conflict and displacement from ancestral land and resources.

For full chapter, including references and Traceable Accounts, see <https://nca2018.globalchange.gov/chapter/hawaii-pacific>.

Projected Onset of Annual Severe Coral Reef Bleaching



The figure shows the years when severe coral bleaching is projected to occur annually in the Hawai'i and U.S.-Affiliated Pacific Islands region under a higher scenario (RCP8.5). Darker colors indicate earlier projected onset of coral bleaching. Under projected warming of approximately 0.5°F per decade, all nearshore coral reefs in the region will experience annual bleaching before 2050. From Figure 27.10 (Source: NOAA).

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII
C E R T I F I C A T E

RESOLUTION 18-221, CD1, FD1

Introduced: 10/05/18 By: CAROL FUKUNAGA

Committee: PUBLIC WORKS,
INFRASTRUCTURE AND
SUSTAINABILITY

Title: RESOLUTION URGING THE CITY ADMINISTRATION TO ESTABLISH GOALS FOR 100 PERCENT RENEWABLE ENERGY AND A CARBON NEUTRAL ECONOMY TO ACCELERATE THE CITY AND COUNTY OF HONOLULU'S IMPLEMENTATION OF THE 2018 GLOBAL CLIMATE ACTION SUMMIT POLICIES.

Voting Legend: * = Aye w/Reservations

11/28/18	PUBLIC WORKS, INFRASTRUCTURE AND SUSTAINABILITY	CR-403 – RESOLUTION REPORTED OUT OF COMMITTEE FOR ADOPTION AS AMENDED IN CD1 FORM.
12/05/18	COUNCIL	RESOLUTION AMENDED TO FD1. 8 AYES: ELEFANTE, FUKUNAGA, KOBAYASHI, MANAHAN, MARTIN, MENOR*, OZAWA, PINE. 1 ABSENT: ANDERSON. CR-403 AND RESOLUTION 18-221, CD1, FD1 WERE ADOPTED. 8 AYES: ELEFANTE, FUKUNAGA, KOBAYASHI, MANAHAN, MARTIN, MENOR, OZAWA, PINE. 1 ABSENT: ANDERSON.

I hereby certify that the above is a true record of action by the Council of the City and County of Honolulu on this RESOLUTION.



GLEN I. TAKAHASHI, CITY CLERK



ERNEST Y. MARTIN, CHAIR AND PRESIDING OFFICER